



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/624,033

07/21/2003

James R. Richter

09793953-0039

5119

26263 7590 01/05/2007
SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

EXAMINER

PRICE, CRAIG JAMES

ART UNIT

PAPER NUMBER

3753

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

01/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/624,033

Applicant(s)

RICHTER, JAMES R.

Examiner

Craig Price

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22, 24 and 27 is/are pending in the application.
4a) Of the above claim(s) 25, 26, 28 and 29 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-22, 24 and 27 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 10 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of species A (Figures 1-4) in the reply filed on 12 December 2005 is acknowledged. The traversal on the reply dated 10 October 2006 is on the ground(s) that the drawings have been changed to not include details of the elbow not being discussed within the specification, and that the previously withdrawn claims 25,26,28 and 29 be reinstated. This is not found persuasive for claims 25, 26, 28 and 29, because these claims do not read on the originally elected species due to the claimed arrangement of the elbow with respect to the pump and turbulence reducing device. The withdrawn claims require a different arrangement of the elbow as compared to Figures 1-4.

The requirement is still deemed proper and is therefore made FINAL.

Claims 25,26, 28 and 29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12 December 2005.

This application contains claims 25,26,28 and 29 drawn to an invention nonelected with traverse in Paper No. dated 09/09/2005. A complete reply to the final

Art Unit: 3753

rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Drawings

2. Applicant's amendment overcomes the objection to the drawings.

Specification

3. Applicant's amendment overcomes the objection to the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,5,6,12,14,15,20,22,24 and 27 rejected under 35 U.S.C. 102(b) as being anticipated by McCall (5,363,699).

Regarding claim 1,6,15,16 and 27, McCall discloses a fluid flow stabilizer (10) for use in a flow of fluid in a conduit with a turbulence creating device (col. 4, ll. 42-57), comprising of a fluid conduit section (12) having a first end (20) for mounting the first end to the fluid conduit and a second end (end of flange 16) for mounting the second end to the fluid conduit, the fluid conduit section having a length, an internal diameter and a fluid passage therethrough to allow the fluid to flow from the first end to the second end as seen in Figure 2, a flow straightening device (36,38) positioned in the fluid conduit section, wherein at least a portion of the flow straightening device has a diameter less than the internal diameter of the fluid conduit section, the flow straightening device (36,38) comprises one or more longitudinally extending vanes wherein radially outer edges of the vanes are spaced from the internal diameter of the fluid conduit section as shown in Figure 2, the fluid conduit section has a length (from 20 to the end of flange 16) and an internal diameter, with the length being less than five times the internal diameter, as shown in Figure 2, the second mounting arrangement comprises a flange with a series of spaced bolt holes extending therethrough (col.4, ll. 41-48). McCall also discloses that the fluid conduit section being constructed of a flexible material which is configured to absorb alignment in that all materials have some type of ability to resist torsional and bending stresses. McCall also discloses in figure 2, that the pump connector has a linear conduit section with a length and an internal diameter, the length being less than five times the internal diameter. The considered section from reference number 20 to flange 16 has a length equal to about 2.5 times the internal diameter.

Art Unit: 3753

Regarding claims 2 and 20, McCall discloses that the flow straightening device comprises one or more longitudinally extending vanes (36,38) as shown in figure 2.

Regarding claim 12 and 22, McCall discloses the vanes are contained entirely within the length of the fluid conduit as shown in figure 2.

Regarding claim 14, McCall discloses a mounting arrangement (16) which comprises a flange with a series of bolt holes extending therethrough as shown in figure 2.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1,2,4-8,10-12,14,15,24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCall (5,363,699) in view of Richter (5,273,321) and Kozyuk (6,012,492).

Regarding Claim 1, McCall discloses a fluid flow stabilizer (10) for use in a flow of fluid in a conduit with a turbulence creating device (col. 4, ll. 42-57), comprising of a fluid conduit section (12) having a first end (20) for mounting the first end to the fluid conduit and a second end (end of flange 16) for mounting the second end to the fluid conduit, the fluid conduit section having a fluid passage therethrough to allow the fluid to flow from the first end to the second end as seen in Figure 2, a flow straightening device (36,38) positioned in the fluid conduit section, the flow straightening device (36,38) comprises one or more longitudinally extending vanes wherein radially outer edges of the vanes are spaced from the internal diameter of the fluid conduit section as shown in Figure 2, the fluid conduit section has a length (from 20 to the end of flange 16) and an internal diameter, with the length being less than five times the internal diameter, as shown in Figure 2, the second mounting arrangement comprises a flange with a series of spaced bolt holes extending therethrough (col.4, ll. 41-48).

McCall lacks, that the fluid conduit section being constructed of a flexible material to absorb at least one of shock, vibration and alignment, and, a fluid control device.

Richter teaches the use of a fluid conduit section (11), where the fluid conduit section (11) is constructed of a flexible material (col.2, ll. 16-25) to absorb at least one of shock, vibration and alignment (col.1, ll. 5-52, and in col. 4, ll. 3-17). Kozyuk teaches the use of a valve (150) used in a fluid conduit (116) as shown in Figure 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Richter's teaching onto McCall's fluid conduit section by having the fluid conduit section made of flexible member as taught by Richter in order to provide a flexible conduit section which provides a greater acoustical impedance (col. 1, ll. 49-52).

Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the fluid conduit section of McCall and Richter to have the fluid control device as taught by Kozyuk in Figure 2, in order to provide a means of controlling the fluid.

With respect to claim 11, the claimed subject matter, "each vane arranged perpendicular to adjacent vanes".

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have each vane arranged perpendicular to adjacent vanes, because applicant has not disclosed that arranging each vane perpendicular to adjacent vanes provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with McCall's vanes (36,38), because McCall's vanes are being used to stabilize the flow (col. 6, ll. 37-51).

Therefore, it would have been an obvious matter of design choice to modify the vanes of McCall, Richter and Kozyuk to obtain the invention specified in claim 11.

Art Unit: 3753

7. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCall (5,363,699) in view of Richter (5,273,321) and Kozyuk (6,012,492) as applied to claims 1 and 6, and further in view of Rosecrans (4,366,746).

McCall-Richter-Kozyuk in combination have taught all of the features of the claimed invention except that, the fluid conduit section comprises of a flexible metal hose. Rosecrans teaches a flexible metal hose (50), as shown in Figure 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the conduit section of McCall, Richter and Kozyuk to have the fluid conduit section made of a flexible metal hose as taught by Rosecrans, in order to improve the number of pressure impulse cycles without failure, as shown in Figure 3 and (col. 6, ll. 55-68).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCall (5,363,699) in view of Richter (5,273,321) and Kozyuk (6,012,492), as applied to claim 11, and further in view of Arnaudeau (4,365,932).

McCall-Richter-Kozyuk in combination have taught all of the claimed features except that, the vanes have a hydrodynamic shape. Arnaudeau teaches a flow straightener having thick fins in the hydrodynamic sense (col.6, ll. 44,45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the vanes of McCall, Richter and Kozyuk to have a hydrodynamic shape as taught by Arnaudeau, in order to define the flow of liquid and maximize uniform flow through the channel.

9. Claims 16,20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCall (5,363,699) in view of Kozyuk (6,012,492).

McCall discloses a pipe flow stabilizer for use in a pipeline between a pump (Col. 4, Lns.52-55) comprising of a pump connector having a first end (20) with a first mounting arrangement for mounting the first end to the pump, the pump connector having a fluid passage therethrough to allow fluid to flow from the first end (20) to the second end (end of flange 16), and a flow straightening device (36,38) in the pump connector (12) as shown in Figure 2, and a pump connector having an internal diameter of 4 inches (Col. 4, Lns. 58-66). McCall further discloses a pump connector having a linear fluid conduit section with a length being less than five times the diameter (Col. 6, Lns. 42-44), where by this description the conduit section would have an approximate length of 2.5 times the diameter. However even if the drawings do not disclose the limitation, one of ordinary skill in the art at the time of invention would have selected a pipe length within this range due to the fact that for the portion of the pipe (12) being used in the rejection, McCall explicitly discloses two vane sets having a length of $\frac{1}{2}$ the diameter of the conduit, where one of ordinary skill in the art at the time of invention would have optimized the length to be less than 5 times the diameter, in order to make the system lighter and for space constraints.

McCall lacks a valve in a pipeline. Kozyuk teaches the use of a valve (150) used in a fluid conduit (116) as shown in Figure 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the fluid conduit section of McCall to have the fluid control

Art Unit: 3753

device as taught by Kozyuk in Figure 2, in order to provide a means of controlling the fluid.

With respect to claim 21, the claimed subject matter, "each vane arranged perpendicular to adjacent vanes".

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have each vane arranged perpendicular to adjacent vanes, because applicant has not disclosed that arranging each vane perpendicular to adjacent vanes provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with McCall's vanes (36,38), because McCall's vanes are being used to stabilize the flow (col. 6, ll. 37-51).

Therefore, it would have been an obvious matter of design choice to modify the vanes of McCall, Richter and Kozyuk to obtain the invention specified in claim 21.

10. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCall (5,363,699) in view of Kozyuk (6,012,492), as applied to claim 16, and further in view of Richter (5,273,321).

McCall-Kozyuk in combination have taught all features of the claimed invention except that, the pump connector is constructed of a flexible material to absorb at least one of shock, vibration and alignment in the pipeline, and comprises an elastomeric material.

Richter teaches the use of a fluid conduit section (11), where the fluid conduit section (11) is constructed of a flexible material (col.2, ll. 16-25) to absorb at least one of shock, vibration and alignment (col.1, ll. 5-52 and in col. 4, ll. 3-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Richter's teaching onto McCall-Kozyuk's pump connector by having the pump connector constructed of a flexible material to absorb at least one of shock, vibration and alignment as taught by Richter in order to provide a pump connector that provides a greater acoustical impedance (col. 1, ll. 49-52).

11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCall (5,363,699) in view of Kozyuk (6,012,492), as applied to claim 16, and further in view of Rosecrans (4,366,746).

McCall and Kozyuk have taught all of the claimed features except that, the pump connector comprises a flexible metal hose. Rosecrans teaches a flexible metal hose (50), as shown in Figure 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pump connector of McCall and Kozyuk to have the pump connector made of a flexible metal hose as taught by Rosecrans, in order to improve the number of pressure impulse cycles without failure, as shown in Figure 3 and (col. 6, ll. 55-68).

Response to Arguments

12. Applicant's arguments filed 10 October 2006 have been fully considered but they are not persuasive.

In regards to your first argument,

Where McCall does not have a flow straightening device in which "at least a portion of the flow straightening device has a diameter less than said internal diameter of the fluid conduit section," as defined in independent Claims 1, 6, 24 and 27. The vanes must have a diameter less than the internal diameter of the conduit section otherwise the vanes could not be installed into the conduit, also the frustums 34a,b are welded to the vane sets, therefore this vane assembly must be placed into the conduit.

In regards to your argument concerning that, there is no reason to combine McCall with Kozyuk, the devices are merely fluid handling systems, therefore they are analogous, the examiner did not search in the sonochemical reaction field for this reference. The device of Kozyuk controls the fluid.

In regards to your argument that the length is less than five times the diameter, the conduit section 12 of McCall is certainly less than five times the internal diameter.

In regards to your argument concerning the placement of the Valve being to the right of the detecting means 32, the portion of McCall's device being used is the length of 12 which does not include this device. Even if the valve was placed after the detecting means, a properly sized valve would not affect the accuracy if the valve was

Art Unit: 3753

used at all. The device also could be used as a comparison of one hydrant to another, therefore the accuracy of the device would only depend on a comparison measurement only.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3753

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Price whose telephone number is (571) 272-2712. The examiner can normally be reached on 8AM - 5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CP



20 December 2006



ERIC KEASEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700